

## Teens and Opioids— Fact or Fiction

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## Objectives

- Review the trends in the incidence of chronic pain, opioid use, and substance use teens
- Describe individual, family, and community level substance misuse risk and protective factors
- Explain the differences between addiction, substance abuse, and chemical coping

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## Incidence of Chronic Pain

- 15-25% of children experience chronic pain
  - Recurrent abdominal pain
  - Headaches
  - Musculoskeletal pain
- 2-2 % have chronic pain as part of chronic disease/illness
  - Cancer
  - Sickle cell
  - Rheumatologic conditions
  - Cystic fibrosis

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### Opioids in Chronic Pain

- Trend is away from opioids in chronic nonmalignant pain.
- The prevalence of SUDs and addiction in patients receiving opioids for chronic pain is essentially unknown.
- The risk for iatrogenic addiction (addiction surfacing during opioid treatment of pain) is likely somewhere between 5 and 19 percent. (Ballantyne, 2006)

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### Opioids in Chronic Pain

- Consequences of increased prescribing
  - Lack of effectiveness
  - Hormonal and immune system effects
  - Increased SUD (18-41%; Manchikanti, 2008)
  - Tolerance
  - Opioid Induced Hyperalgesia

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### Adolescence

- "It was the best of times...it was the worst of times...it was the age of wisdom...it was the age of foolishness"
- "Our youth now love luxury. They have bad manners...contempt for authority...they show disrespect for their elders...favor chatter in place of exercise...they contradict their parents, gobble up food, and tyrannize their teachers"

Herrman, 2009

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### Developmental Awareness

- Teen brain is still "under construction"
  - Proliferation
  - Pruning
  - Myelinization
  - Back to front maturation

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### Developmental Awareness

- Back to Front Maturation
  - Back
    - Cerebellum
      - Coordination/senses/early thought
    - Amygdala
      - Emotional center—fear and rage
  - Middle
    - Basal ganglia
      - Priority setting, fine motor, bigger in females
    - Corpus collosum
      - Problem solving, creativly

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### Developmental Awareness

- Back to Front Maturation
  - Front
    - Prefrontal cortex—rational thought
      - Organizing thoughts
      - Weighing consequences
      - Assuming responsibilities
      - Interpreting emotions
    - Last area to mature, grows into 20's
    - Sensitive to environment

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### Incidence of Substance Abuse

- According to NSDUH
  - Annual survey since 1975
  - 12<sup>th</sup> graders until 1991 then added 8<sup>th</sup> and 10<sup>th</sup> graders
  - 2008 survey: 46,000 students in 386 schools
  - Concern that results may be artificially low as truants, dropouts, & runaways not included

SAMHSA, 2008

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### Incidence of Substance Abuse

- Tobacco
  - 12-17 year olds:
    - 12.4% used a tobacco product
      - 9.8% used cigarettes
      - 4.2% used cigars
      - 2.4% used smokeless tobacco (an ↑ from 2002)
  - Cigarettes
    - 1.8% 12-13 year olds
    - 8.4% 14-15 year olds
    - 18.9% of 16-17 year olds

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### Incidence of Substance Abuse

- Alcohol
  - 39% of 8<sup>th</sup> graders (10% heavy)
  - 62% of 10<sup>th</sup> graders (22% heavy)
  - 72% of 12<sup>th</sup> graders (26% heavy)

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### Incidence of Substance Abuse

- Marijuana
  - 11% in 8<sup>th</sup> graders
  - 24% in 10<sup>th</sup> graders
  - 32% in 12<sup>th</sup> graders

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### Incidence of Substance Abuse

- Inhalants
  - 8.9% of 8<sup>th</sup> graders
  - 5.9% of 10<sup>th</sup> graders
  - 3.8% of 12<sup>th</sup> graders

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### Incidence of Substance Abuse

- Amphetamines
  - 4.5% in 8<sup>th</sup> graders
  - 6.4% in 10<sup>th</sup> graders
  - 6.8% in 12<sup>th</sup> graders

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### Incidence of Substance Abuse

- Cocaine
  - 1.8% of 8<sup>th</sup> graders
  - 3.0% of 10<sup>th</sup> graders
  - 4.4% of 12<sup>th</sup> graders
- Ecstasy
  - 1.7% of 8<sup>th</sup> graders
  - 2.9% of 10<sup>th</sup> graders
  - 4.3% of 12<sup>th</sup> graders

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### Incidence of Substance Abuse

- Methamphetamines
  - 1.5 or < % in all age groups
- Heroin
  - <0.1% in all age groups

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### Incidence of Substance Abuse

- Hallucinogens (LSD, PCP, mushrooms)
- Dextromethorphan
- Club drugs (GHB, Ketamine, rohypnol)

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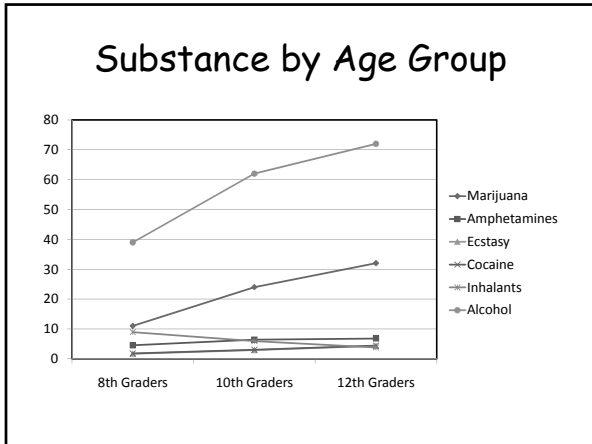
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- ### Demographics of Abusers
- Males ~2X use rate of females  
– except in the 12 to 17 year olds = same
  - Asians --4.2%
  - Hispanics--6.6%
  - Whites--8.2%
  - Blacks--9.5%
  - Persons of mixed races--11.8%
  - American Indians or Alaska Natives--12.6%
- SAMHSA, 2008

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### Prescription (Rx) Drugs

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### Fact or Fiction

- Prescription drugs are less harmful than street drugs
- Nothing wrong with using prescription medications for non-medical reasons
- Good kids don't do them

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### Fact or Fiction

- Those who use to relieve physical pain are at no greater risk than non-users to develop drug-related problems
- Teens see their misuse as responsible, controlled, safe
- 1/3 of teens say Rx pain meds are not addictive

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### Incidence of Abuse

- Prescription Drugs
  - Next to marijuana Rx drugs are most common illegal substance used (9.1% Vs 11%)
  - Most commonly abused drugs for 12-13 year olds

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### Incidence of Abuse

- Opioids
  - 1 in 5 teens reported nonmedical use of opioids
- Other Rx drugs of abuse
  - Stimulants
  - Sleeping aides
  - Sedatives/anxiolytics

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### Demographics

- More likely to be:
  - Female
  - White
  - Late teens
- Girls have higher dependency and abuse rates

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### Top Reasons to Use Rx Drugs

- 56.4% -- relax or relieve tension
- 53.5% -- feel good or get high
- 52.4% -- experiment, see what it's like
- 44.8% -- relieve physical pain
- 29.5% -- have a good time with my friends

McCabe et al, 2009

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### Top Reasons to Use Rx Drugs

- 26.5% -- sleep
- 18.6% -- boredom, nothing else to do
- 16.6% -- get away from problems or troubles
- 15.3 % -- increase effects of other drug(s)
- 12.0% -- get through the day

McCabe et al, 2009

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### Top Reasons to Use Rx Drugs

- 11.6% -- anger or frustration
- 7.6% -- control coughing
- 7.5% -- deeper insights and understanding
- 3.0% -- substitute for heroin
- 2.5% -- because I am "hooked"
- 2.1% -- to fit in
- 1.1% -- decrease effects of other drug(s)

McCabe et al, 2009

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### Risk Factors

- Genetics
- Family history
- Environment
- Exposure

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### Risk Factors

- Individual
- Family
- Community

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### Individual Risk Factors

- Cognitive
  - Lack of accurate information
- Attitudinal
  - Alienation
  - Rebelliousness
  - Positive expectations regarding the effects
  - Beliefs that using will increase coping and/or enhance social functioning

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### Individual Risk Factors

- Psychological
  - Low self-esteem
  - Low assertiveness
  - Poor behavioral self control
- Developmental
  - Younger age of initial use—greater risk

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### Family Risk Factors

- **Modeling**
  - Direct modeling and positive attitudes toward substances
- **Bonding**
  - Harsh discipline
  - Poor monitoring
  - Low levels of bonding
- **Conflict**
  - High levels of conflict

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### Community Risk Factors

- **Schools**
  - Higher number of disengaged students
- **Peers**
  - Strongest predictors of use and misuse
- **Community**
  - Availability of substances
  - Safety
  - Engagement
  - Disorganization

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### Exposure

- **80% high schoolers and 44% of middle schoolers personally witnessed on their school grounds**
  - Illegal drug use
  - Illegal drug dealing
  - Illegal drug possession
  - Other drug abuse related activities

Manchikanti et al, 2008

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### Protective Factors

- Individual
- Family
- Community

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### Individual Protective Factors

- Resilient temperament
- High intelligence
- Prosocial orientation

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### Family Protective Factors

- Warm supportive parental involvement
- Monitoring
- Consistent discipline
- Expectations against use

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### Community Protective Factors

- High levels of neighborhood attachment
- Stable neighborhoods
  - Less dense population
  - Decreased mobility (moving in and out)
  - Acceptable housing
- More difficult access to substances
  - Cost, availability, legal restrictions

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### Words and More Words

Definitions According to Whom?

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### Addiction

(AAPM, APS, ASAM, 2001)

- A primary, chronic, neurobiologic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations.
- Characterized by:
  - impaired control over drug use
  - compulsive use
  - continued use despite harm
  - craving

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### Addiction

(DSM-IV, 1994)

- Addiction is characterized by cravings and preoccupation with obtaining the substance; using more than necessary for the intoxicating effects; and experiencing tolerance, withdrawal, and having decreased drive for ordinary daily activities and responsibilities

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### Dependence

(AAPM, APS, ASAM, 2001)

- Adaptation that is manifested by a drug class specific withdrawal syndrome that can be produced by:
  - abrupt cessation
  - rapid dose reduction
  - decreasing blood level of the drug and/or
  - administration of an antagonist

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### Substance Dependence

(DSM-IV, 1994)

- Dependence can be diagnosed when a person continues to repeatedly use a substance despite problems associated with the use of the substance. This pattern of use may result in withdrawal if the substance is stopped or reduced and tolerance to the effects of the substance.

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### Substance Abuse (DSM-IV, 1994)

- Substance abuse is a maladaptive pattern of substance use leading to:
  - clinically significant impairment or distress (e.g., failure to attend to work, school, or home responsibilities)
  - use when physically hazardous (e.g., driving or operating machinery)
  - use resulting in legal problems (e.g., arrests for disorderly conduct or illegal possession or distribution)
  - continued use despite repeated social or interpersonal problems resulting from use of the substance AND
  - the symptoms have not met criteria for substance dependence

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### Substance Use Disorder

- Substance abuse and substance dependence are considered SUDs according to the DSM-IV.
- Substance DEPENDENCE is generally more regular and consistent use whereas substance ABUSE may be inconsistent but interferes with usual life responsibilities.

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### Pseudoaddiction

- An iatrogenic syndrome caused by the under treatment of pain and is frequently misidentified by clinicians as inappropriate drug-seeking behaviors

Weissman & Haddox, 1989

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### Chemical Coping

- Is it abuse? misuse? addiction? normal?
- Chemical coping?
- "I just need to get through"
- "Sedentary user of narcotics"

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### Questions

- Do we create our own monsters?
- Does this make sense?
  - Developmental—neurobiology
  - Medical
  - Psychosocial

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### Questions

- Are we between a rock and hard place?
- How do we deal with teens?
  - Thoughtful treatment
  - Consistent communication
  - Education
  - Support

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## I Believe

- We don't even know what we don't know
  - We must be vigilant
  - We must be thoughtful
  - We must always seek to understand
  - We must be aware of the latest information
- It may be better or worse than we know

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## Summary

- More meds are being prescribed
- More teens are misusing
- Risk and protective factors occur at the individual, family, and community level
- Definitions are confusing

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